

**REMARKS**

Claims 54, 56, 60, 62, 64, 66, 76, 133, 134 and 137 were pending. Claim 54 has been amended to restrict the claim to SEQ ID NO:23, sequences related by degeneracy of the genetic code, and complements thereof. Claims 56 and 133 have been amended to increase the size of the claimed fragments of SEQ ID NO:23. Claim 76 has been amended to restrict the claim to kits comprising 12-32 nucleotide segments of SEQ ID NO:23, sequences related by degeneracy of the genetic code, and complements thereof. Claim 137 has been amended to provide a specific primer pair; support for the amendment is found in Example 8 of the specification. No new matter has been added.

**Rejections Under 35 U.S.C. § 112, Second Paragraph**

The Examiner rejected claim 137 under 35 U.S.C. § 112, second paragraph, as indefinite. Applicant respectfully requests reconsideration based on the following.

Applicant has amended claim 137 to recite that the kit contains a specific primer pair, SEQ ID NOs: 27 and 28. Based on this amendment, Applicant submits that claim 137 as amended is not indefinite.

In view of the claim amendment presented above, Applicant respectfully requests that the Examiner withdraw the rejection of claim 137 under 35 U.S.C. 112, second paragraph.

**Rejections Under 35 U.S.C. § 102**

A. The Examiner rejected claims 54, 56, 60, 64, 66, 133 and 134 under 35 U.S.C. § 102(e) as anticipated by Jacobs et al. (US publication 2003/0044935, with priority to US application 09/098,588, filed June 17, 1998). Applicant respectfully requests reconsideration in view of the following.

Applicant has amended claims 54, 56, 76 and 133 to limit the claims to SEQ ID NO:23, sequences related to SEQ ID NO:23 by the degeneracy of the genetic code, complements thereof, and fragments of SEQ ID NO:23 that are 30 or more nucleotides in length.

The sequences of the Jacobs application that are identified by the Examiner, SEQ ID NO:92 and SEQ ID NO:77, do not fall within the scope of the claims as amended, and therefore Jacobs does not anticipate the claims. Likewise, the claims that depend from the amended claims also are not anticipated by Jacobs.

As noted by the Examiner, SEQ ID NO:77 of Jacobs differs from the claimed sequences at nucleotides corresponding to nucleotides 142 and 994 of Applicant's SEQ ID NO:23 (the latter nucleotide, and not nucleotide 995, differs from SEQ ID NO:77).

Applicant has manually compared parts of SEQ ID NO:23 against Jacobs SEQ ID NO:77, and wishes to note the following differences between the sequences.

Nucleotides 1-6 of SEQ ID NO:23 (G) are not present in SEQ ID NO:77.

Nucleotide 10 of SEQ ID NO:23 (G) is replaced by "C" in SEQ ID NO:77.

Nucleotide 142 of SEQ ID NO:23 (C) is replaced by "T" in SEQ ID NO:77.

Nucleotide 994 of SEQ ID NO:23 (T) is replaced by "C" in SEQ ID NO:77.

Nucleotides 1605-1607 of SEQ ID NO:23 (CCC) are replaced by "CC" in SEQ ID NO:77.

Nucleotides 1631-1632 of SEQ ID NO:23 (TT) are replaced by "TTT" in SEQ ID NO:77.

Nucleotide 1684 of SEQ ID NO:23 (G) is replaced by "K" (= G or T/U) in SEQ ID NO:77.

Nucleotide 1686 of SEQ ID NO:23 (C) is replaced by "S" (= C or G) in SEQ ID NO:77.

Nucleotide 1689 of SEQ ID NO:23 (C) is replaced by "T" in SEQ ID NO:77.

Nucleotide 1694 of SEQ ID NO:23 (C) is replaced by "T" in SEQ ID NO:77.

Nucleotide 1722 of SEQ ID NO:23 (C) is replaced by "S" (= C or G) in SEQ ID NO:77.

Nucleotide 1790 of SEQ ID NO:23 (C) is replaced by "M" (= A or C) in SEQ ID NO:77.

Analysis of additional differences between these two sequences requires access to Jacobs SEQ ID NO:77, which Applicant does not have, as this sequence does not appear to be deposited in publicly available databases, e.g., GenBank.

Accordingly, in view of the foregoing differences, the Jacobs application does not anticipate SEQ ID NO:23 or its complement.

With respect to the claimed degenerate sequences, e.g., part (b) of claim 54, it is noted that the nucleotide differences in SEQ ID NO:77 of Jacobs are not specified by the degeneracy of the genetic code. Nucleotide 142 of SEQ ID NO:23 of the instant application (C) is part of a codon (CCC) that specifies a proline amino acid. In contrast, the corresponding nucleotide of Jacobs SEQ ID NO:77 (T) is part of a codon (TCC) that specifies a serine amino acid. Nucleotide 994 of SEQ ID NO:23 of the instant application (T) is part of a codon (TTC) that specifies a phenylalanine amino acid. In contrast, the corresponding nucleotide of Jacobs SEQ ID NO:77 (C) is part of a codon (CTC) that specifies a leucine amino acid. Thus, based on at least these two differences, Jacobs does not anticipate degenerate sequences that encode the same polypeptide as SEQ ID NO:23, or complements thereof.

Accordingly, in view of the claim amendments and the analysis of (at least some of) the differences between Jacobs SEQ ID NO:77 and Applicant's SEQ ID NO:23 as described above, Applicants respectfully request that the Examiner reconsider and withdraw the rejection made under 35 U.S.C. § 102(e).

**B.** The Examiner rejected claims 54, 56, 60, 64, 66, 76, 133, 134 and 137 under 35 U.S.C. § 102(a) as anticipated by Bandman et al. (PCT publication WO 00/09709, published February 24, 2000). Applicant respectfully requests reconsideration in view of the following.

As noted above, Applicant has amended claims 54, 56, 76 and 133 to limit the claims to SEQ ID NO:23, sequences related to SEQ ID NO:23 by the degeneracy of the genetic code, complements thereof, and fragments of SEQ ID NO:23 that are 30 or more nucleotides in length.

SEQ ID NO:30 of the Bandman application is asserted by the Examiner to be “identical to the instant SEQ ID NO:23”. Applicant respectfully disagrees that these sequences are identical, as explained further below, and asserts that SEQ ID NO:30 of the Bandman application does not fall within the scope of the claims as amended, and therefore Bandman does not anticipate the claims. Likewise, the claims that depend from the amended claims also are not anticipated by Bandman.

Specifically, SEQ ID NO:30 of Bandman differs from the claimed sequences, as for the Jacobs sequence above, at nucleotides corresponding to nucleotides 142 and 994 of Applicant’s SEQ ID NO:23. Nucleotide 142 of SEQ ID NO:23 (C) is replaced by “T” in SEQ ID NO:77, and nucleotide 994 of SEQ ID NO:23 (T) is replaced by “C” in SEQ ID NO:77. Accordingly, the Bandman application does not anticipate SEQ ID NO:23 or its complement.

Analysis of additional differences between these two sequences requires access to Bandman SEQ ID NO:30, which Applicant does not have, as this sequence does not appear to be deposited in publicly available databases, e.g., GenBank.

Accordingly, in view of the foregoing differences, the Bandman application does not anticipate SEQ ID NO:23 or its complement.

With respect to the claimed degenerate sequences, e.g., part (b) of claim 54, it is noted that the nucleotide differences in SEQ ID NO:30 of Bandman are not specified by the degeneracy of the genetic code. Nucleotide 142 of SEQ ID NO:23 of the instant application (C) is part of a codon (CCC) that specifies a proline amino acid. In contrast, the corresponding nucleotide of SEQ ID NO:30 of Bandman (T) is part of a codon (TCC) that specifies a serine amino acid. Nucleotide 994 of SEQ ID NO:23 of the instant application (T) is part of a codon (TTC) that specifies a phenylalanine amino acid. In contrast, the corresponding nucleotide of

SEQ ID NO:30 of Bandman (C) is part of a codon (CTC) that specifies a leucine amino acid. Thus, based on at least these two differences, the Bandman application does not anticipate degenerate sequences that encode the same polypeptide as SEQ ID NO:23, or complements thereof.

Regarding claims 56, 133 and 134, in contrast to the Jacobs reference, the Examiner does not indicate in the Office Action that Bandman provides a specific fragment of SEQ ID NO:23 of at least 30 nucleotides as is presently claimed. Therefore, for this additional reason, Applicant submits that Bandman does not anticipate claims 56, 133 and 134.

Accordingly, in view of the claim amendments and the analysis of (at least some of) the differences between Bandman SEQ ID NO:30 and Applicant's SEQ ID NO:23 as described above, Applicants respectfully request that the Examiner reconsider and withdraw the rejection made under 35 U.S.C. § 102(a).

**CONCLUSION**

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,



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